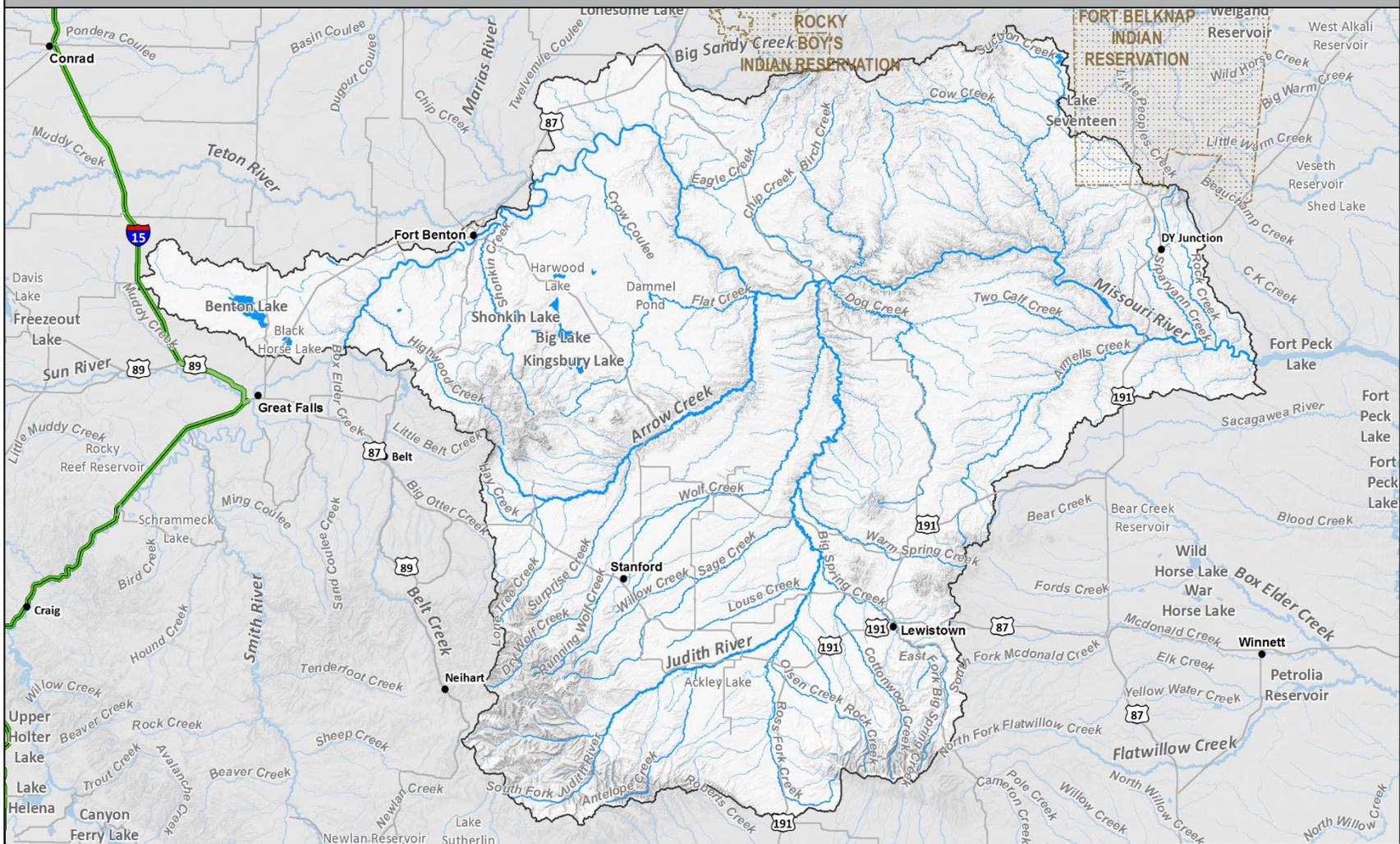


Missouri River - Judith Drainage

MONTANA FWP



-  Tribal Lands
-  Drainage Boundary



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Missouri River – Judith Drainage

Physical Description

The Missouri River – Judith Drainage covers approximately 200 miles of the Missouri River, from Morony Dam below Great Falls to the headwaters of Fort Peck Reservoir, which can fluctuate by more than 30 miles depending on reservoir elevations. The drainage contains more than 5,900 miles of named streams and covers a diversity of habitats and diverse suite of species, with more than 50 fish species present in the drainage.

The reach of the Missouri River from Great Falls to the mouth of the Marias River is 54 miles in length. Stream gradient averages 4.8 feet/mile and varies from 18.7 feet/mile at the mouth of Belt Creek to 2.2 feet/mile near the mouth of the Marias River. The principal tributaries entering this reach are Belt, Highwood and Shonkin creeks. Belt Creek contributes a noticeable flow to the Missouri only during the spring runoff period (see Chapter 2.24 Belt Creek Drainage).

The Missouri River from the confluence of the Marias River to the confluence of the Judith River is 67 miles long. The stream gradient averages 2.1 feet/mile and varies from 3.0 feet/mile near the mouth of Arrow Creek to 1.5 feet/mile at Coal Banks Landing. The Marias River is the only tributary stream in this reach which contributes a noticeable flow to the Missouri River.

The Missouri River from the confluence of the Judith River to Fort Peck Reservoir varies in length due to fluctuating water elevation in the reservoir but is approximately 85 miles in length. Stream gradient averages 1.9 feet/mile and varies from 3.2 feet/mile near Stafford Ferry to less than 1 foot/mile as the river enters the reservoir. The Judith River is the only tributary stream in this reach that contributes a noticeable flow to the Missouri River.

The Judith River is the third largest tributary to the Missouri River in the reach between Canyon Ferry and Fort Peck dams. This stream drains an estimated 2,000 square miles of the Little Belt, Big Snowy, Judith, and the North and South Moccasin mountains and surrounding lands of central Montana. The Judith flows northward for 129 miles to its confluence with the Missouri River about 50 miles north of Lewistown. Major tributaries include the Middle, South and Ross forks, Big Spring and Warm Spring creeks, and Wolf Creek. Many of the tributary streams go subsurface near the foothills into the limestone geology and emerge downstream. Big Spring Creek and Warm Spring Creek are primarily spring-fed creeks, while Cottonwood Creek, the South Fork Judith River, and the headwaters of Wolf Creek have long reaches that are routinely dry in late summer.

The upper Judith River is situated in the mountainous area of the Helena-Lewis and Clark National Forest with its tributaries originating at an elevation of about 8,000 feet. The river begins at the confluence of the Middle and South forks and flows within a broad valley through prairie foothills and bench lands. The riparian vegetation consists of dense willow and other shrubs adjacent to hay meadows for about half its length. Further downstream, cottonwoods begin to dominate the overstory along with an undergrowth of willows and rose. The average stream gradient is 30 feet/mile. Channel substrate is composed mostly of cobbles and gravel with moderate amounts of siltation.

The lower Judith River, from Big Spring Creek to the confluence with the Missouri River (elevation of 2,430 feet) is a prairie stream receiving runoff from adjacent lowlands and surrounding isolated mountain ranges. It follows a narrow river valley through prairie bench lands and rugged breaks. The river valley averages about one-half mile wide and becomes progressively more deeply entrenched in a downstream direction. Riparian vegetation consists of deciduous woodland dominated by an overstory of cottonwoods with a dense shrubby undergrowth of willows, rose and snowberry. The average stream gradient was 12 feet/mile in 2010, but historic flooding in 2011 shortened stream length with numerous channel avulsions and increased gradient below Ross Fork Creek. Channel substrate is mostly composed of cobbles and gravel.

Land uses in the Judith River drainage are diverse. Basin wide, timber harvest on forest lands has been moderate; however, the South Fork of the Judith has been intensively logged. Additionally, timber harvest on private lands, especially in the mountain foothills, has become popular practice as a fire mitigation tool and to increase livestock forage. Agricultural uses occur throughout the drainage. Livestock grazing is moderate on the public forest lands of the upper basin and is a major agricultural practice in the lower basin. Nearly all the private land is managed for cattle ranching and farming. Hay and some crop lands exist along the river and are more extensive in the upstream areas. Irrigation is also more intensive here, resulting in severe dewatering of the Judith River for several miles. An off stream storage reservoir, Ackley Lake, located along the upper section of the Judith, stores 6,140 acre-feet, and provides irrigation to 1,621 acres. Mining activities in the basin date back to the late 1800s. Gold was the primary mineral sought in the Yogo area of the Little Belt Mountains, however, sapphire mining also proved to be commercially successful. Gold mining was also pursued in the North Moccasin and Judith mountains. Water quality issues have developed at a former open-pit gold mine that operated in the North Moccasin Mountains at Kendall. Active commercial mining has restarted in the Yogo Creek area and recreational placer mining has become quite popular on U.S. Forest Service (USFS) lands.

Arrow Creek originates in the Little Belt and Highwood Mountain ranges and drains portions of Judith Basin, Fergus, and Chouteau counties. The Arrow Creek watershed, occupying approximately 1,224 square miles, lies west of the Judith River drainage and Arrow Creek flows northward into the Missouri River. Major tributaries include Flat Creek, Lone Tree Creek, and Cottonwood Creek. Agricultural uses occur throughout the drainage and most lands are managed for cattle ranching and farming. In the northern part of the drainage, the creek flows thorough badlands on its way to the Missouri River. Arrow Creek has a natural hydrograph and may be dewatered in late summer and early fall during dry years. The Arrow Creek drainage is more arid than the Judith basin, with the headwaters holding less snow for a shorter period. Double peaked hydrographs can result from prairie snow melting in March and summer thunderstorms causing short-duration, high-intensity discharges. Arrow Creek's channel is very sinuous. Much of the bottomland is privately owned, although Department of Natural Resource Conservation (DNRC) trust lands and Bureau of Land Management (BLM) managed lands compose a greater percentage than in the Judith River basin.

Arrow Creek flows through a wide valley bottom of Quaternary alluvium and the modern-day channels are set within a canyon of sedimentary layers. The wide alluvial valley and floodplain surround a Rosgen C-channel type, which characterizes most of lower Arrow Creek, being low in gradient, meandering, and with point bars and riffle/pool morphology. The cottonwood forest on Arrow Creek is dominated by

plains cottonwood. Other riparian tree and shrub species include peachleaf willow, yellow willow, and sandbar willow. Although present, Russian olive are not found in high densities.

Fisheries Management

The middle Missouri River supports a diverse warmwater fishery. All the native fish species that historically occurred here are still found in this reach because of the relatively unaltered state of the river. There are substantial angling opportunities for sauger, walleye, channel catfish, shovelnose sturgeon, paddlefish, smallmouth bass, freshwater drum, burbot, and a variety of nongame species. FWP fisheries objective for the middle Missouri River emphasize native species management.

The Missouri River below Morony Dam includes a transition zone between coldwater and warmwater fisheries. The Highwood and Shonkin creek drainages support trout fisheries. Shonkin Creek also has a robust prairie fish assemblage. Thirteen species, including smallmouth bass, were sampled near the mouth in 2004. Sauger have been historically the most abundant game fish found throughout this reach down to the Marias River, although numbers have declined in recent years. Coldwater game fish include brown trout, rainbow trout, and mountain whitefish. These species are common only in the upper 15 miles. Other cool/warmwater fish found in this reach include burbot, smallmouth bass, channel catfish, shovelnose sturgeon, northern pike, freshwater drum, blue sucker, and goldeye. Forage fish studies indicate side channels are important habitat areas displaying higher fish diversity and abundance compared to open river areas. Side channel areas are also important rearing areas for goldeye, smallmouth buffalo, and bigmouth buffalo. Young-of-year and forage fish are thought to use the side channel areas from early June through the end of August; flows of 4,500 cfs are required to keep side channels functional in this reach. Prior research also determined that paddlefish residing in Fort Peck Reservoir and the lower middle Missouri River require a flow of 14,000 cfs at Virgelle to trigger spring migrations to upstream spawning sites. Based on calculations made from U.S. Geological Survey (USGS) data gathered at the Virgelle and Fort Benton gaging stations, it was determined the Missouri River at Fort Benton contributes 80.6% of the median flow of the Missouri River at Virgelle. Therefore, to maintain the annual spring paddlefish migration in downstream reaches, it is recommended that the Missouri River discharge at Fort Benton be maintained at 80.6% of 14,000 cfs, or 11,284 cfs, during the spawning period which is generally from May 19 to July 5 annually.

Below the mouth of the Marias, shovelnose sturgeon are amongst the largest found anywhere within the geographical range of the species. Paddlefish, a Species of Concern, inhabit the reach between the Marias and the mouth of the Judith River only during its spawning season. For most of their lives, paddlefish are found in Fort Peck Reservoir. When the Missouri rises to a flow greater than 14,000 cfs during the spring, paddlefish are triggered to leave the reservoir and migrate upstream to spawn. Females make this migration every 2 to 3 years and males every 1 to 2 years. Paddlefish have been observed as far upstream as the mouth of the Marias River when flows are extremely high. Previous research identified four spawning areas between the Marias and the Judith. Paddlefish receive light fishing pressure because of limited access and lack of paddlefish concentrations. Twenty-two nongame species have been found in this reach of the Missouri. Blue sucker, smallmouth buffalo, bigmouth buffalo, and freshwater drum are four nongame migratory species that are dependent on high spring flows for successful reproduction. In addition to paddlefish, endangered pallid sturgeon, shovelnose

sturgeon, as well as sturgeon chub and blue sucker (Species of Concern), use this reach. Pallid sturgeon numbers have increased in this reach because of hatchery propagation. No natural pallid sturgeon recruitment has been detected the past 70 years.

The third reach of the middle Missouri, from the Judith River to Fort Peck Reservoir, supports a warm water fishery. Sauger, shovelnose sturgeon, channel catfish, and walleye are common game fish found in the reach. Hatchery-origin pallid sturgeon are also commonly caught by anglers in this reach. A major paddlefish snag fishery exists in the lower 40-mile reach from May 1 to June 15. Several tributaries with prairie fish assemblages, such as Armells Creek (81 miles long), Cow Creek, and Eagle Creek, enter in this reach.

The Judith River from the mouth of the Missouri to Big Spring Creek is primarily a warmwater fishery, where sauger and channel catfish are the most abundant game fish. Cold water game fish, including rainbow trout, brown trout, and mountain whitefish, also inhabit this reach seasonally but occur in low numbers during the summer. Twenty-three nongame species have been found in the Judith River, including shorthead redhorse, longnose sucker, goldeye, flathead chub, stonecat, longnose dace, white sucker, common carp, cisco, fathead minnow, sand shiner, emerald shiner, lake chub, brook stickleback, freshwater drum, river carpsucker, Rocky Mountain sculpin, plains minnow, smallmouth buffalo, and western silvery minnow. In addition, blue sucker migrate into this reach to spawn. The lower Judith River has a diverse fishery, which reflects the variety of habitat conditions present and the transition from a coldwater to a warmwater environment. The Judith River is an important tributary to the Missouri River, with shared fishery dynamics as various species utilize both rivers for aspects of their life histories. Pre- and post-spawn migrations of blue sucker, burbot, channel catfish, northern pike, and sauger have been documented moving between the Judith and Missouri rivers. Recent surveys have also documented bigmouth buffalo and pallid sturgeon in the Judith. The lower Judith River receives only a light amount of fishing pressure, most likely due to its remote location. Fisheries management of the lower Judith will seek to monitor and maintain recreationally important and conservation priority populations. Fish movement monitoring will continue throughout the drainage to evaluate use and dispersal of species of interest.

In the Judith River drainage, brown trout are the predominant game fish found from Big Spring Creek to the confluence of the South and Middle forks, followed by mountain whitefish and rainbow trout. A population of brook trout exists in the upper portion of the reach where several springs originate and flow into the river. Nongame species include mountain sucker, white sucker, longnose sucker, longnose dace, and Rocky Mountain sculpin. The Judith River receives a moderate amount of fishing pressure in this reach. Management activities in the upper Judith seek to enhance habitat and monitor and maintain populations.

Rainbow trout are the most abundant game fish in the lower reaches of the South Fork Judith River. Westslope cutthroat trout are more abundant in the headwaters and upper tributaries above a concrete barrier that was installed in the mid-2000s. Annual stocking of hatchery-sourced westslope cutthroat trout continues to genetically swamp the fishery above the barrier. Brook trout are found throughout the South Fork. Sculpin and mountain whitefish are common in the lower end above a dry reach. This stream receives substantial fishing pressure for its size. In the Lost Fork Judith River, brook trout are the

predominant game fish, followed by rainbow and westslope cutthroat trout hybrids. Rocky Mountain sculpin are found throughout the stream's length. The Lost Fork receives light fishing pressure because of its remote location. The Middle Fork Judith River is severely degraded resulting in low fishery productivity. Fish populations are very low with rainbow trout being most abundant. The headwaters contain brook trout, westslope cutthroat trout, and cutthroat x rainbow trout hybrids. Sculpin are present throughout the drainage and brown trout are rare. The Middle Fork receives a moderate amount of fishing pressure considering its remote location. Yogo Creek, a tributary to the Middle Fork is a relatively popular fishery due to ease of access. The creek contains a sympatric mixture of brook trout and slightly hybridized westslope cutthroat trout. Fisheries management activities in the Judith River forks will seek to monitor and maintain recreationally important populations while also seeking opportunities to conserve, enhance, and expand native fish populations, especially in the upper South Fork and throughout the Middle Fork Judith rivers.

Big Spring Creek is exceptionally productive, and for its size, is rated as one of Montana's finest fishing waters. The creek is considered the most important trout stream in central Montana, with rainbow trout and brown trout the major game species. Prior to the mid-2000s, rainbow trout made up most of the population, while more recently brown trout have been about 75% of the population downstream of Lewistown. Mountain whitefish are also present, along with a few brook trout. Northern pike and yellow perch are occasionally found. Nongame fish species found in this reach include Rocky Mountain sculpin, longnose dace, longnose sucker, white sucker, mountain sucker, shorthead redhorse, common carp, and lake chub. Big Spring Creek receives a substantial amount of angler use, with an estimated 9,670 angler days in 2019. Most use is by bank fishermen; however, Big Spring Creek does receive a considerable amount of floating use and the use of small watercraft is increasing. Most floating activity is related to swimming, fishing, kayaking, duck hunting, and bird watching. Cottonwood Creek is the main tributary to Big Spring Creek. The fisheries in Cottonwood Creek transition from westslope cutthroat trout in the headwaters to brook trout in the foothills and rainbow trout and brown trout toward the confluence with Big Spring Creek. Fisheries management activities in Big Spring Creek and its tributaries will seek to monitor and maintain recreationally important populations. Additional management activities will seek to conserve, enhance, and potentially expand native fish populations.

The fishery of Warm Spring Creek is dominated by nongame fish, including white sucker, longnose sucker, longnose dace, common carp, stonecat, and shorthead redhorse. Smallmouth bass are present in good numbers and were stocked in the creek from 1973 until 2013. The population now persists on natural reproduction. Rainbow trout are also present in good numbers and were stocked extensively from 1929 until 2013. Recent surveys indicate natural reproduction and recruitment are occurring and a wild population persists. Interestingly, an adfluvial population of rainbow trout utilizes Warm Spring Creek for its spawning location, before out-migrating to Fort Peck Reservoir. Spawning occurs in December through January when water temperatures in Warm Spring Creek are suitable. Brown trout, brook trout, channel catfish, northern pike, and sauger are also present in low numbers. Angling pressure is trending upwards on Warm Spring, with 1,227 angler days estimated in 2019. Land management practices in some reaches have induced excessive bank erosion and associated negative impacts. Generally, the riparian and aquatic habitat of Warm Spring Creek are in good condition. Fisheries management activities in the Warm Spring Creek drainage will monitor and maintain current

recreationally valuable populations. Study and monitoring of the adfluvial rainbow trout will occur and if pressure continues to increase, additional management, such as special regulations, may be necessary to maintain a viable population. Warm Spring Creek headwater streams will be evaluated for native fish conservation and restoration projects.

The Arrow Creek drainage contains a warmwater fishery in its lower reaches that includes goldeye, flathead chub, channel catfish, stonecat, and northern redbelly x finescale dace hybrids. In its headwaters, brook trout and westslope cutthroat trout are present. There are approximately 47 miles of suitable habitat for salmonids. Approximately 43 of these miles are inhabited by brook trout, and 4 miles by westslope cutthroat trout. Management activities primarily focus on habitat in the lower portions of Arrow Creek. Headwaters streams will be managed to conserve, enhance, and potentially expand native fish populations.

The long-term goal of cutthroat conservation in the Judith River drainage is to have approximately 20% of the historically occupied habitat restored to secure conservation populations of cutthroat trout. See Part 1, 1.6.8(1) Westslope Cutthroat Trout.

Lake and reservoir fishing accounts for roughly 22% of the angling pressure in the Judith drainage according to the [2019 FWP Angling Pressure Survey](#). Most of the pressure occurs at Ackley Lake, East Fork Big Spring Creek Reservoir, the Carter Ponds, Big Casino Creek Reservoir, Crystal Lake, and Hansen Creek Reservoir. There are numerous other small lakes, ponds, and reservoirs that receive light to moderate pressure. Many of the lakes and reservoirs are managed to provide recreational opportunities via stocked fish. Species stocked include rainbow trout, brown trout, largemouth bass, tiger muskie, and crappie. Numerous historic unauthorized introductions in area reservoirs have naturalized and provide angling opportunities for primarily yellow perch and northern pike.

Ackley Lake receives moderate angling pressure, with an estimated 5,773 angler days in 2019. Management of Ackley Lake will seek to provide a quality recreational opportunity via put-grow-and-take trout fisheries. Additionally, management will seek to improve trout condition, decrease sucker biomass, and provide additional trophy opportunity via stocking of brown trout and tiger muskie. Recent management actions at Ackley have resulted in changes to stocked trout abundance. Angler preference varies, but general expectations at Ackley are to have moderate to high catch rates of rainbow trout with less emphasis on fish size. Fish stocking and assemblage evaluations are ongoing to meet angler expectations. Stocking rates and species stocked will be based on the biology of the fishery. Management of Ackley will seek to maintain high rainbow trout catch rates by establishing a minimum catch-per-unit-effort (CPUE) goal of 10 fish per net. This will be monitored via annual fall gillnet surveys. The primary mechanism of managing the CPUE goal in Ackley will be via alterations to the stocking program either by adjusting numbers stocked or modifying the species present. Goal ranges may be adjusted based on the biology of the fishery. It should be emphasized that Ackley Lake is an irrigation storage impoundment and water levels are managed as such, with little priority or consideration given to the aquatic habitat impacts of drastic water level fluctuations. These habitat impacts can have substantial impacts to the productivity and quality of the fisheries.

East Fork Big Spring Creek (East Fork) Reservoir received 14% of the total lake/reservoir pressure in the Judith drainage in 2019, with 1,307 angler days. Management of East Fork will seek to provide a quality

angling opportunity primarily aimed at high catch rates. Yellow perch, the result of an unauthorized introduction in the late 1980s, have very high recruitment and abundances. These fish are routinely stunted but provide excellent catch rates for anglers, especially during the ice fishing season. Northern pike, also the result of a late 1980s unauthorized introduction, are present at moderate densities and provide recreational opportunity. East Fork is occasionally stocked with catchable-sized rainbow trout. Management activities at East Fork will seek to monitor and maintain existing fish populations. Management will also attempt to shift yellow perch size structure upward, while maintaining relatively high abundances. This would be done by reattempting to establish largemouth bass as an additional predator in the reservoir which could provide some top-down control of the perch population while adding to the recreational opportunity present. All stocking will be based on the biology of the fishery.

Habitat

Present-day flow regimens of the Missouri River from Morony Dam to the mouth of the Marias River are not natural because of regulation and storage at several upstream dams. Discharge is largely controlled by Canyon Ferry Reservoir. However, the influence of larger tributaries such as the Smith River, Dearborn River, and Sun River in the spring help this reach maintain a natural shaped hydrograph most years, with a spring rise from mountain snowmelt. There are five hydroelectric dams within the Great Falls area that are operated by NorthWestern Energy. These dams do not typically influence flow regime because FERC stipulates that Morony Dam is to be operated to maintain uniform flows downstream. Even though the Great Falls area dams do not directly impact discharge, they have impacts to thermal regime and sediment transport downstream of Morony Dam. Long-term flow records are available for two USGS gage sites within this reach and consists of two distinct periods of discharge patterns, related to the construction of Canyon Ferry Dam (completed in 1954). At Fort Benton the mean monthly flows prior to the construction of Canyon Ferry Dam (1890 to 1953) ranged from 4,316 cfs in September to 21,601 cfs in June. After dam construction (1954 to 2022) the mean monthly flows in June have been reduced to 13,175 cfs and the mean September flows are higher at 5,400 cfs.

From the Marias River to the confluence of the Judith River, the Marias River discharge augments the Missouri River flows by about 10% most of the year. Present day flow regimens have similar characteristics to the reach upstream of the Marias River confluence. The Marias River does not greatly increase spring flows in the Missouri because of flood control and regulation by Tiber Reservoir. However, it may be useful in the future to restore a more natural seasonal flow regime to the Missouri River. Long-term flow records are available for the USGS Virgelle gage station located 18 miles below the confluence of the Marias River. The average annual flow for the 88-year period of record (1935-2022) was 8,193 cfs. Prior to Canyon Ferry Dam Construction (1935-1953) mean monthly flows ranged from 4,442 cfs in September to 21,287 cfs in June. In the past 69 years since construction the mean monthly flows in September have increased to 6,171 cfs and the highest mean month discharge is to 15,955 cfs in June.

In the lowest reach from the confluence of the Judith River to the headwaters of Fort Peck Reservoir, the Judith River augments the Missouri River by about 5% throughout most of the year. Present-day flow regimens of the Missouri River have similar characteristics to the upstream reach and are regulated by upstream reservoirs. Long-term flow records are available for the Fred Robinson Bridge USGS gaging

station located 23 miles above full pool of Fort Peck Reservoir. The average annual flow for a 77-year period of record (1935 to 2011) was 8,988 cfs. Mean monthly flows after Canyon Ferry Dam construction range from 6,552 cfs in September to 17,531 cfs in June.

In the Judith River drainage, common habitat issues include dewatering, poor riparian condition, lack of natural river function, and nonpoint source pollution such as sediment and nutrients. The degree of impairment varies throughout the drainage. Any potential project to address these common habitat issues in the drainage will be pursued opportunistically. The upper Judith River above Big Spring Creek is commonly dewatered and FWP's instream reservation of 25 cfs is routinely not met. This dewatering exacerbates nutrient impairments resulting in high levels of aquatic vegetation production. These factors limit the fishery potential of the upper Judith River and point to the need to pursue water conservation projects in the basin. Ross Fork Creek, a tributary of the Judith, is currently listed as nutrient impaired by the Department of Environmental Quality (DEQ) and has generally poor riparian condition. Commercial feedlot operations in the Ross Fork drainage are associated with additional concerns regarding nutrient impairment. Numerous springs feed the lower reaches of Ross Fork, making it important thermal refugia for Judith River salmonids during summer months when dewatering can result in water temperatures exceeding 80 F. Projects that address nutrient loading and are aimed at improving riparian condition and function within the Ross Fork drainage will be pursued. The Middle Fork Judith River drainage is severely degraded due to sedimentation which stems from numerous stream crossings associated with a USFS road. Stemming from their [2007 Travel Management Plan](#), the USFS is currently working to reroute the road and eliminate most of the stream crossings. Collaborative efforts to assist with the remediation of the stream crossings and improve the habitat conditions in the Middle Fork have been productive and are planned to continue. In 2020, a sizable wildfire occurred in the headwaters of Yogo Creek where a conservation population of westslope cutthroat trout occurs. Projects that encourage natural channel dynamics and riparian recovery from the fire while benefiting the westslope cutthroat trout population will be encouraged. A total maximum daily load (TMDL) study on Big Spring Creek identified various impairments in the sub-basin. Nutrients, sediment, polychlorinated biphenyls (PCBs), and streambank erosion were identified and projects that address these issues in the sub-basin, especially on tributaries such as Castle, Hansen, Casino, Wolverine, and Cottonwood creeks will be beneficial to the important recreational fishery on Big Spring Creek.

Special Management Issues

Native Species Conservation

FWP has worked closely with numerous partners in the Arrow, Judith, and middle Missouri drainages to help preserve and restore the unique native and wild fisheries available in these systems. Recent partners have included NorthWestern Energy (NWE), Montana State University, University of Idaho, Bureau of Reclamation (BOR), and Western Area Power Administration, U.S. Fish & Wildlife Service (USFWS), and the USFS. Projects have included assisting with pallid sturgeon recovery, paddlefish population research, and research on other native riverine species. An ongoing effort in cooperation with USFS has successfully increased and restored genetically unaltered westslope cutthroat trout into the headwaters of several streams in the Judith, Arrow, and Highwood drainages.

Paddlefish Management

The paddlefish population in the upper Missouri is possibly one of the healthiest in the world. This robust population sees consistent reproduction and recruitment, maintains high growth rates, and demonstrates an age class structure that includes a proportion of older aged fish. In addition, no hatchery paddlefish have ever been stocked into this reach unlike most other populations. Largely due to the remoteness and Charles M. Russell (CMR) National Refuge oversight regarding commercial activities, no commercial caviar operation has ever been developed on this population. This population has provided a unique harvest opportunity for anglers and continues to be managed sustainably while ensuring a quality experience for anglers.

Paddlefish anglers have seen several changes to the regulations and season structure since 2006. The current paddlefish season runs from May 1 to June 15 with harvest tags allocated via a lottery draw and 1,000 harvest tags issued annually. Unsuccessful harvest draw anglers are still allowed to snag and release paddlefish during the season. In addition, anglers wanting to participate in this fishery can purchase a snag and release tag over the counter. The current season structure, which considered several years of public feedback and suggestions gathered through onsite and phone creel surveys, has been in place since 2016. The current season structure has reduced overcrowding of anglers and increased overall angling satisfaction. Furthermore, the lottery tag system guarantees tag holders an opportunity to snag for paddlefish throughout the entire 46-day season, improving paddlefish harvest distribution throughout the season. Mandatory reporting requirements continue to track the number of paddlefish harvested, sex ratios, size and age distribution, and presence of jaw tags. In addition, a follow-up phone creel is conducted annually to cross-check angler reported harvest numbers.

FWP will continue to evaluate harvest to ensure sustainability of this unique fishery. Recent population modeling indicates that sustainable harvest can range from 400 to 600 fish annually. The harvest range was established using the lower range of recent adult population estimates completed in 2019 and factored in an average annual harvest of 3% to 5% of the adult population, with harvest never exceeding 15%. Under the current tag allocation system, harvest estimates from 2016 to 2022 have averaged 344 paddlefish (2.9% of the adult population). FWP will continue to monitor the number of harvest tags allocated annually, population estimates, age structure, and recruitment of young paddlefish. FWP will also continue to tag adults in the spring to track movement, monitor growth, and estimate population size. Additional tagging will occur to understand angler related snag and release mortality rates and propeller strike related mortality. Young-of-year transects will be conducted in late summer to estimate reproductive success and recruitment as it pertains to spring flows on the Missouri River and Fort Peck Reservoir water elevations (rearing habitat). Creel and harvest surveys will continue to be conducted during the paddlefish season on the Missouri River from river mile 1,921 to 1,899 (James Kipp Recreation Area and Campground to Lower Peggy's Bottom) and a post season phone creel survey will be conducted annually. These measures are essential to maintain the paddlefish population at sustainable levels while providing a high-quality harvest opportunity.

Pallid Sturgeon Recovery

FWP has been working with the USFWS and other partners to recover pallid sturgeon in Montana since listing in 1990, working under the guidance of the [Revised Recovery Plan for Pallid Sturgeon](#). Specific pallid sturgeon management issues present in the Missouri River upstream of Fort Peck Reservoir are discussed here.

The Missouri River between Morony Dam and Fort Peck Dam contains the most upstream habitat that supports a population of endangered pallid sturgeon in the Missouri River Basin. No natural recruitment has been observed in this reach the past 60 years. Reasons for recruitment failure are outlined in Part I, 1.6.17 Pallid Sturgeon section of this plan. Due to recruitment failure only a few large wild-origin pallid sturgeon remained in this reach at the time of listing under the Endangered Species Act (ESA). An ongoing Conservation Propagation Program was initiated in the early-1990s ([USFWS, 2019](#), [USFWS, 2019](#)). This hatchery program has captured most of the genetic variability present in the wild upper basin fish at the time of listing. Stocking progeny from wild fish has resulted in a large population of hatchery-origin pallid sturgeon (HOPS). The HOPS population was estimated to be near 4,000 individuals in 2016 but only a few individuals from the 1997 year-class were known to have reached maturity. Pallid sturgeon in this reach are slow to mature, with the earliest HOPS females maturing at age-16 and males at age-14. Few wild adults and a slow maturing hatchery population hindered recovery efforts in the decades that followed listing. Reproductive assessments have shown that a large proportion of the oldest year classes are mature and genetically confirmed progeny have been captured downstream of spawning sites.

In addition to reproductive assessments, FWP also monitors the HOPS of all year classes to evaluate how stocking locations, stocking size, parental influence, year-class, presence of disease, hatchery practices, and other factors might contribute to survival, growth, health, distribution, and maturity of these individuals. Unique marks, genetics, and tags allow FWP to catalog individuals through time. As more HOPS reach maturity, efforts have shifted to monitoring spawning migrations, spawning habitat, spawning success, hatch verification, and recruitment verification to determining what management actions are needed for species recovery. Radio and passive integrated transponder (PIT) telemetry are valuable tools for monitoring pallid sturgeon recovery efforts, most importantly how migrations and habitat use change with differing timing and magnitudes of river discharge during the spawning season. Recent research has indicated that spawning by pallid sturgeon would need to occur in the upstream reach of this section for natural recruitment to occur due to the influence of Fort Peck Reservoir downstream. Therefore, research efforts are focused on investigating the potential for recruitment from an upper river (including tributaries) spawning event and tools to attract mature pallid sturgeon to this reach in the spring. A larval drift study in 2022 and subsequent years is planned to evaluate the potential for recruitment for upper river and Marias River spawning events.

Other issues relevant to pallid sturgeon recovery that may be investigated in the next four years include carrying capacity, ontogenetic dietary shifts, spawning habitat assessments, upstream translocation, and additional research questions that are born out of current monitoring findings.

Flow Modification Studies

This reach of Missouri River is impacted by an anthropogenically altered flow regime primarily by mainstem dams. Although a spring rise is still present most years, the peak flow in the spring is dampened with altered timing and higher base flows present throughout the fall and winter. Altered flow regimes, in turn, impact the timing and magnitude of temperature regime and sediment transport. These alterations result in a flow regime, temperature regime, and turbidity patterns that differs from that which the native species found here have evolved with. FWP works with BOR and NWE to evaluate, and when appropriate modify, how the timing and magnitude of dam releases influence the life history of important native species. During these discussions the impacts on other stakeholders are taken into consideration and flow modifications are made within the normal operating range for those dams. Recently, these efforts have been focused on promoting spawning by pallid sturgeon in the Marias River following observations of mature individuals using this tributary during high spring flow in 2018. These discussions occur annually and are dependent on water availability in the drainage and other climate conditions.

Sauger Management

Sauger have experienced noticeable declines since the 1970s, most noticeable in the reach upstream of the Marias confluence. Altered environmental conditions, changing abiotic conditions, changing prey availability, presence of walleye and smallmouth bass, and a life history that makes them vulnerable to over exploitation are all factors potentially contributing to the observed declines. During standard sampling efforts FWP plans to continue PIT tagging, collecting age structures, and externally tagging all sauger that are handled. These efforts will allow FWP to make regulation and management recommendations based on scientific data that investigates the potential factors that have contributed to declines.

Radio and PIT Telemetry Studies

FWP works with BOR, NWE, Montana State University, BLM, and the USFWS to conduct telemetry studies on the Missouri River and larger tributaries. FWP currently maintains 15 radio telemetry stations along the Missouri, Marias, and Teton rivers as well as 16 PIT telemetry stations along the Marias, Teton, and Judith Rivers. These efforts monitor habitat use, migration patterns, and reproductive timing of important species as they relate to environmental and biotic conditions in the Missouri River and larger tributaries. These efforts are intended to continue into the foreseeable future with additional radio and PIT tags implanted into various fish species and additional stations installed along the river corridor. Radio and PIT telemetry will play a vital role in pallid sturgeon recovery efforts and inform management of native sport fish such as sauger and nongame species such as blue sucker and smallmouth buffalo.

Pallid Sturgeon Larval Drift Studies

A pallid sturgeon spawning event upstream of Coal Banks Landing has the potential to result in natural recruitment for the first time in 60 years. This hypothesis will be tested by conducting larval releases of

pallid sturgeon upstream of Coal Banks Landing, including in the Marias River and possibly the Missouri River upstream of the Marias Confluence. Multiple release years are needed to examine a range of Missouri and Marias river discharges on the dispersal and dispersion of drifting larvae. Following the release FWP will monitor the drift rates and dispersion of free embryos, conduct beam trawling to look for young-of-year, and look for any survivors during future monitoring efforts.

Sicklefin and Sturgeon Chub Management

Both sicklefin chub and sturgeon chub were petitioned to be listed under ESA in 2016 and a 90-day finding in 2017 indicated that listing might be warranted. A Species Status Assessment by the USFWS is underway and a 12-month finding is expected by the end of 2023. It is unclear what direction management of these two species will take in the next 4 years. However, FWP will play a large role in recovery efforts if the species become listed under the ESA.

Blue Sucker Investigations

As with many long-lived native species in this reach, blue sucker populations consist primarily of older aged adults and few young fish, which is indicative of limited recruitment. Very little is known about blue sucker early life history and FWP staff rarely handle blue sucker under 24-inches in length. It is known that spawning blue sucker in this reach utilize the Marias, Teton, and Judith rivers during the spawning season. Not much is known about the fate of fertilized embryos or the subsequent larvae, young-of-year, or juveniles. A research project that looks to address these knowledge gaps and others will be pursued in the next few years. An age validation study will be conducted in 2023 which will improve our understanding of longevity in this species and identify years where successful recruitment has occurred. Genetic samples are also currently being collected from all blue suckers handled during sampling efforts. Genetic work will (1) establish genetic baseline for blue sucker in the Missouri River drainage; (2) compare patterns of genetic variation and genetic structure to those observed in 2004/2005 during a previous study; and (3) if feasible, compare patterns of genetic variation and structure for older age classes vs. contemporary age classes.

Roving Creel Survey

FWP conducts a roving creel survey of the entire middle Missouri River reach from April through October every four years. This creel survey is funded by NWE and provides important information regarding angler catch rates, trends in river usage, trends in angler satisfaction, and angler demographics. The most recent survey was conducted [in 2019](#). The next survey is scheduled to occur in 2023. Previous surveys have informed decisions to change sauger regulations in this reach, corroborated trends in sampling data that warrant future investigation (i.e., sauger declines), prioritized improving access points, and provides a great opportunity for pallid sturgeon outreach. The 2023 survey will follow the template of previous surveys but will also include questions aimed at answering additional questions related to sauger exploitation and the use of setlines in the Fred Robinson Bridge area during the spawning period.

Middle Fork Judith River Habitat Restoration

In 2007, the [Helena-Lewis and Clark National Forest Travel Management Plan](#) identified the need to reroute jeep trail #825. The trail has historically crossed the Middle Fork Judith River numerous times on its way to private inholdings within the forest. Recently, a collaborative effort has resulted in planning, studying, and implementing the reroute. The trail reroute is planned to be completed in the next 2 years. The existing trail contains 82 ingress/egress points which have resulted in severe sedimentation of the Middle Fork. Once the reroute is completed, habitat restoration efforts are planned to mitigate and address the chronic erosion and sedimentation issues caused by the numerous crossings and ingress/egress points. These collaborative restoration efforts will reduce the level of impairment and benefit the fisheries potential in the drainage. Habitat restoration activities would include streambank naturalization, recontouring, and possibly some structures. The habitat restoration is planned to occur in 2023 and would be expected to be completed within 2 years.

Middle Fork Judith River Native Fish Restoration Feasibility

The Middle Fork Judith River has been chronically degraded due to sediment for decades, resulting in a marginal fishery. Collaborative efforts are underway to correct and restore the sediment issues in the drainage. This habitat restoration effort has resulted in a review of the feasibility of restoring or enhancing native fish in the Middle Fork Judith River. Genetically unaltered, aboriginal westslope cutthroat trout are present in small populations in headwater streams in the drainage. Brook trout are present throughout the Middle Fork Judith and its major tributaries, Yogo Creek and Lost Fork Judith River. Rainbow trout and brown trout are present in low abundances primarily in the main stem. The Judith River drainage is the eastern-most extent of native westslope cutthroat trout range, making it an important area in terms of genetic conservation and diversity. There are roughly 80 river miles of salmonid inhabited streams in the Middle Fork Judith drainage, including its tributaries and roughly 15 miles are occupied by westslope cutthroat. Currently, there are roughly 7 miles of genetically unaltered westslope cutthroat trout streams in the entire Judith drainage and approximately 83 stream miles that contain westslope cutthroat trout regardless of genetic status, or approximately 6% of historically occupied habitat. Should the entire 80 miles of salmonid occupied habitat be occupied by genetically unaltered westslope cutthroat trout, it would result in a more than 10-fold increase in genetically unaltered occupied stream miles and it would result in roughly 10% of historic range being occupied. Additional studies are required to determine the feasibility of such a large-scale native fish restoration project. Planned actions to address feasibility include determining the genetic status of existing cutthroat trout populations in the drainage, assessing barrier options and determining if a location is feasible, assessing benefits of different goals (level of genetic purity, non-native removal or sympatry), performing appropriate environmental studies/reviews, and estimating costs and identifying funding opportunities. Engaging anglers, stakeholders, interest groups, public and private landowners, and the general public will also be critical in implementing conservation actions. These actions should take 2-4 years to complete and would be expected to provide substantial input to determine the feasibility of advancing a native fish restoration project in the future.

South Fork Judith River Genetic Swamping

A barrier was constructed to protect a conservation population of westslope cutthroat trout in the South Fork Judith River in 2005. Rather than completely removing the fishery above the barrier (which includes brook trout, some rainbow trout, and slightly hybridized and unaltered westslope cutthroat trout) the decision was made to mechanically suppress the non-native species and attempt to genetically swamp the hybridized portion of the population by stocking unaltered westslope cutthroat trout. Stocking has occurred since 2007. An assessment of the swamping status is planned to determine the best path forward and how to manage cutthroat trout conservation in the South Fork Judith.

Castle Creek Low-Tech Restoration

Castle Creek is a small tributary of Big Spring Creek. Past land management activities and channelization has resulted in the creek becoming entrenched and disconnected from its floodplain. This has resulted in numerous unstable reaches and increased rates of erosion and sedimentation of the channel. Low-tech restoration activities, such as beaver dam analogs and post-assisted log structures, would be expected to expedite floodplain activation and improve long-term channel function. This project is currently in its conceptual phases, but planning, design, landowner engagement, and restoration activities are expected to occur in the next 4 years.

Buffalo Creek Low-Tech Restoration & Native Fish Expansion

Buffalo Creek is a first-order tributary of Ross Fork Creek. Historic land management practices have resulted in a slightly degraded stream, which lacks floodplain access and has some channelized portions. Low-tech restoration activities, such as beaver dam analogs and post-assisted log structures, would be expected to encourage floodplain activation and riverscape development. Once restoration activities occur, the drainage may be a suitable candidate for a westslope cutthroat trout expansion project, utilizing nearby donor populations in need of replication. This project is currently in its conceptual phases, but planning, design, landowner engagement, and project implementation may occur in the next 4 years.

Judith River Drainage Fish Movement

The mainstem Judith River is an important tributary of the Missouri River. Numerous spawning and life history movements have been documented, including recreationally important adfluvial Warm Spring rainbow trout and Species of Concern such as sauger, blue sucker, burbot, and pallid sturgeon. Continued monitoring via PIT tags and associated antennae are planned to further elucidate fish movements and the importance of the Judith River to mainstem Missouri River fish populations. Information gained from monitoring fish movement will be used to direct future management decisions in the Judith drainage.

Big Spring Creek Chinook Salmon Evaluation

Chinook salmon are currently stocked in Fort Peck Reservoir to provide a recreational fishery. Big Spring Creek is linked to Fort Peck via the Judith and Missouri rivers. It is possible that a run could be developed using chinook salmon and Big Spring Creek. The run could provide an additional egg source for hatchery chinook propagation and provide a unique angling opportunity on Big Spring Creek. An assessment of the feasibility of attempting to develop such a run will be completed. Once completed, appropriate public engagement, proposal development, and implementation planning would occur if deemed feasible.

Big Spring Creek Mill Ditch Naturalization

The flow of Big Spring Creek is split through Lewistown, with part of the flow passing through a semi-natural channel that goes under town through a tunnel for 5 city blocks. The remainder of the flow is diverted through a flood control channel known as the Mill Ditch. The ditch is a rectangular concrete channel and acts a complete movement barrier. The semi-natural channel is assumed to act as a partial barrier due to the tunnel and velocities created at the gate diversion to the Mill Ditch. FWP will work with the City of Lewistown and interested stakeholders to consider the feasibility and planning of naturalizing the Mill Ditch to the benefit of the Big Spring Creek fishery, aquatic habitat function, and flood resiliency of Lewistown.

Big Spring Creek Creel Survey

Big Spring Creek provides an important recreational fishery in central Montana. A formal creel survey has not been completed on Big Spring Creek since 2003. The fishery has changed substantially since 2003. Additionally, angler use, means of access, and regional demographics are changing. These factors, in concert with drought and fishing closures elsewhere, has resulted in interest in formally assessing anglers on Big Spring Creek to provide information of satisfaction, crowding, and use. Information gained from a creel survey would inform future management decisions and priorities. A creel survey is expected to occur in the next 4 years.

FISHERIES MANAGEMENT DIRECTION FOR THE MISSOURI RIVER - JUDITH DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Missouri River – Great Falls to confluence with the Marias River	54 miles	Sauger (N)	Wild	General/Restrictive Regulations	Maintain populations within historic levels and manage as a recreational fishery with limited harvest.
		Walleye, Northern pike, Freshwater drum (N), Smallmouth bass	Wild	General	Manage as a recreational fishery with consumptive harvest.
		Rainbow trout, Brown trout, Shovelnose sturgeon (N), Channel catfish (N)	Wild	General	Maintain populations within historic levels and manage as a recreational fishery.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels with consumptive harvest.
		Pallid sturgeon (N)	Hatchery/ Wild	Conservation	Maintain and enhance existing population levels to reduce extinction risk.
		Blue sucker (N), Bigmouth buffalo (N), Smallmouth buffalo (N), Stonecat (N)	Wild	Conservation	Maintain populations within historic levels.
Habitat needs and activities: Maintain stream flows of 3,700 cfs from 9/1 to 3/14 for maintenance of riffles, 4,887 cfs from 3/14 to 5/18, 11,284 cfs from 5/19 to 7/5 for paddlefish spawning migration, and 4,500 cfs from 7/6 to 8/31 for maintaining side channel habitat for forage species.					
Highwood Creek	37.6 miles	Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain populations within historic levels and manage as a recreational fishery.
Habitat needs and activities: Maintain 10 cfs for instream flows to maintain aquatic habitat.					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
North Fork Highwood Creek	5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain population and expand densities to occupy all habitat above barrier.
Habitat needs and activities: Explore opportunities to improve riparian conditions. Evaluate wild fish transfer to lower reaches of creek where westslope cutthroat trout densities are low.					
Big Coulee	2.5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extirpation risk.
		Brook trout	Wild	Suppression	Monitor above barrier for presence of brook trout. Evaluate opportunities to suppress or remove if found above barrier.
Habitat needs and activities: Explore opportunities to improve riparian conditions.					
Smith Creek	1.8 miles	Westslope cutthroat trout (N)	Wild/Transfer	Conservation	Maintain or enhance population to reduce extirpation risk.
Shonkin Creek	52 miles	Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest.
Habitat needs and activities: Maintain instream flow of 7 cfs for aquatic habitat.					
Missouri River - confluence of the Marias River to the Judith River	67 miles	Sauger (N)	Wild	Restrictive Regulations	Maintain populations within historic levels, manage as a recreational fishery with limited harvest.
		Walleye, Northern pike, Freshwater drum (N), Smallmouth bass	Wild	General	Manage as a recreational fishery with consumptive harvest.
		Shovelnose sturgeon (N), Channel catfish (N)	Wild	General	Maintain populations within historic levels and manage as a recreational fishery.
		Pallid sturgeon (N)	Hatchery/ Wild	Conservation	Maintain and enhance existing population levels to reduce extinction risk.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Paddlefish (N)	Wild	Restrictive Regulations	Review population data annually and make harvest tag allocation adjustments as needed to ensure sustainable harvest and maintain high quality angling experiences.
		Burbot (N)	Wild	General	Maintain populations within historic levels.
		Blue sucker (N), Bigmouth buffalo (N), Smallmouth buffalo (N), Stonecat (N)	Wild	Conservation	Maintain populations within historic levels.
Habitat needs and activities: Maintain 4,300 to 14,000 cfs for instream flows as indicated by the following to maintain fisheries. Maintain stream flows of 4,300 cfs from 9/1 to 3/14 for maintenance of riffles, 5,571 cfs from 3/14 to 5/18, 14,000 cfs from 5/19 to 7/5 for paddlefish spawning migration, and 5,400 cfs from 7/6 to 8/31 for maintaining side channel habitat for forage species. Experimental river releases at Tiber and Canyon Ferry dams will be explored as a management tool for mimicking the natural hydrograph and providing spawning and migration cues for pallid sturgeon and other Species of Concern.					
Missouri River - confluence of the Judith River to the headwaters of Fort Peck Reservoir	85 miles	Sauger	Wild	Restrictive Regulations	Manage to maintain populations within historic levels in upper reaches and provide a recreational fishery with limited harvest.
		Walleye, Freshwater drum (N), Smallmouth bass	Wild	General	Manage as a recreational fishery with consumptive harvest.
		Shovelnose sturgeon (N), Channel catfish (N)	Wild	General	Maintain populations within historic levels and manage as a recreational fishery.
		Pallid sturgeon (N)	Hatchery/ Wild	Conservation	Maintain and enhance existing population levels to reduce extinction risk.
		Paddlefish (N)	Wild	Restrictive Regulations	Collect and evaluate population data annually. Make harvest tag allocation adjustments as

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Burbot (N) Blue sucker (N) Bigmouth buffalo (N), Smallmouth buffalo (N), Stonecat (N)	Wild Wild	General Conservation	per population modeling to ensure sustainable harvest and maintain high quality angling experiences. Maintain populations within historic levels. Maintain populations within historic levels.
Habitat needs and activities: Maintain 4,700 to 15,302 cfs for instream flows as indicated by the following to maintain fisheries. Maintain stream flows of 4,700 cfs from 9/1 to 3/14 for maintenance of riffles, 7,100 cfs from 3/14 to 5/18, 15,302 cfs from 5/19 to 7/5 for paddlefish spawning migration, and 5,800 cfs from 7/6 to 8/31 for maintaining side channel habitat for forage species. Experimental river releases at Tiber and Canyon Ferry dams will be explored as a management tool for mimicking the natural hydrograph and providing spawning and migration cues for pallid sturgeon and other Species of Concern.					
Arrow Creek and important tributaries—mouth to US Hwy 80 Bridge	61 miles	Channel catfish (N) Goldeye (N) Northern redbelly dace (N)	Wild Wild Wild	General General Conservation	Maintain populations within historic levels and manage as a recreational fishery. Manage as a recreational fishery with some consumptive harvest. Maintain populations within historic levels.
US Hwy 80 Bridge to headwaters	41 miles	Brook trout	Wild	General	Maintain recreational fishery for consumptive harvest where they pose no threat to westslope cutthroat trout populations.
Coffee Creek & tributaries	45 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
Surprise Creek	36 miles	Brook trout	Wild	General	Manage as recreational fishery with consumptive harvest.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Davis Creek	6 miles	Northern redbelly dace (N) Brook trout	Wild Wild	Conservation General	Maintain populations within historic levels. Manage recreational fishery for consumptive harvest where they pose no threat to westslope cutthroat trout populations.
Hay Creek	17 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
Habitat needs and activities: Opportunistically pursue projects that improve riparian condition and water conservation.					
Cottonwood Creek and important tributaries (Arrow Creek drainage)	5 miles	Westslope cutthroat trout (N) Brook trout	Wild Wild	Conservation Removal	Maintain or enhance population to reduce extirpation risk. Monitor above barrier for presence of brook trout. Evaluate opportunities to suppress or remove if found above barrier.
Boyd Creek	2 miles	Westslope cutthroat trout (N) Brook trout	Wild Wild	Conservation General	Maintain or enhance population to reduce extirpation risk. Monitor population and if determined that brook trout are negatively influencing westslope cutthroat trout, evaluate opportunities for suppression or removal.
Habitat needs and activities: Maintain habitat above barrier in Cottonwood Creek and opportunistically pursue projects that improve cutthroat trout habitat, riparian condition, and late season flows. Explore opportunities to expand westslope cutthroat trout conservation population downstream.					
Judith River and important tributaries – mouth to Big Spring Creek	69 Miles	Sauger (N) Walleye, Northern pike, Rainbow trout, Brown trout,	Wild Wild	Conservation General	Manage to maintain populations within historic levels and provide a recreational fishery with limited harvest. Manage as a recreational fishery with consumptive harvest.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Salt Creek Sage Creek	17 miles 58 miles	Smallmouth bass	Wild	General	Maintain populations within historic levels and manage as a recreational fishery.
		Channel catfish (N)			
		Mountain whitefish (N)			
		Blue sucker (N), Smallmouth buffalo (N), Bigmouth buffalo (N)			
		Burbot (N)			
		Native minnows and suckers			
		Northern redbelly dace (N)			
Brook trout	Wild	General	Manage as a recreational fishery.		
Native minnows and suckers					
Habitat needs and activities: Maintain 160 cfs for instream flows to maintain aquatic habitat. Opportunistically pursue projects that mitigate dewatering, improve riparian condition, and address nonpoint source nutrient and sediment issues.					
Judith River and important tributaries - Big Spring Creek to South /Middle Fork confluence	58 Miles	Rainbow trout, Brown trout, Brook trout	Wild	General	Manage as a recreational fishery with harvest.
		Mountain whitefish (N), Westslope cutthroat trout (N)	Wild	General	Maintain populations within historic levels.
Louse Creek	28 miles	Native minnows and suckers	Wild	Conservation	Maintain populations within historic levels.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Habitat needs and activities: Maintain 25 cfs in the Judith River for instream flows to maintain aquatic habitat. Opportunistically pursue projects that mitigate dewatering, improve riparian condition, reduce fish entrainment, and address nonpoint source nutrient and sediment issues.					
Dry Wolf Creek and important tributaries – Forest Service boundary to headwaters	12 miles	Westslope cutthroat trout (N) Brook trout	Wild Wild	Conservation General	Maintain or enhance population to reduce extirpation risk. Manage as a recreational fishery with consumptive harvest to minimize potential for competition with westslope cutthroat trout population.
Butcherknife Gulch	2 miles	Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest to minimize potential for competition with westslope cutthroat trout population.
Placer Creek	3 miles	Westslope cutthroat trout (N) Brook trout	Wild Wild	Conservation General	Maintain or enhance population to reduce extirpation risk. Manage as a recreational fishery with consumptive harvest to minimize potential for competition with westslope cutthroat trout population.
Snow Creek	1 mile	Westslope cutthroat trout (N) Brook trout	Wild Wild	Conservation General	Maintain or enhance population to reduce extirpation risk. Manage as a recreational fishery with consumptive harvest to minimize potential for competition with westslope cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Lyons Gulch	2 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extirpation risk.
		Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest to minimize potential for competition with westslope cutthroat trout population.
Habitat needs and activities: Maintain habitat and opportunistically pursue projects that improve cutthroat trout habitat, riparian condition, and late season flows.					
Running Wolf Creek and important tributaries	12 miles	Rainbow trout, Brook trout	Wild	General	Manage as recreational fishery with consumptive harvest to minimize potential impacts to westslope cutthroat trout population.
North Fork Running Wolf	5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extirpation risk.
		Brook trout	Wild	Suppression	Monitor for presence of brook trout. Evaluate opportunities to suppress or remove if found.
Habitat needs and activities: Maintain habitat and opportunistically pursue projects that improve cutthroat habitat, riparian condition, and late season flows. Work with USFS to address sedimentation issues stemming from road crossings. Explore opportunities to construct fish barrier to secure conservation population of westslope cutthroat trout from non-native trout populations located downstream.					
South Fork Judith River and important tributaries – mouth to fish barrier	9.5 miles	Rainbow trout, Brown trout, Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest.
		Westslope cutthroat trout (N)	Wild	Conservation	Manage as a recreational fishery with limited harvest.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Fish barrier to headwaters	11 miles	Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
		Rainbow trout, Brook trout	Wild	Suppression/Removal	Manage as recreational fishery. Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
		Westslope cutthroat trout (N)	Wild/Hatchery	Conservation	Manage as recreational fishery with limited harvest. Maintain and secure genetically altered population from competition and continued hybridization. Continue genetic swamping.
Dry Pole Canyon	4 miles	Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest.
Bluff Mountain Creek & tributary	6 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure genetically altered population from competition and continued hybridization.
Cabin Creek	4 miles	Rainbow trout, Brook trout	Wild	Suppression/Removal	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild/Hatchery	Conservation	Maintain and secure genetically altered population from competition and continued hybridization. Continue genetic swamping.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Smith Creek	2.5 miles	Rainbow trout, Brook trout	Wild	Suppression/Removal	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure genetically altered population from competition and continued hybridization.
Cross Creek	1.5 miles	Brook trout	Wild	Suppression/Removal	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
Deadhorse Creek	3.7 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure genetically altered population from competition and continued hybridization.
		Rainbow trout, Brook trout	Wild	Suppression/Removal	Manage as recreational fishery. Continue suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
Russian Creek & tributary	4 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure genetically altered population from competition and continued hybridization.
		Brook trout	Wild	Suppression/Removal	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Big Hill Creek Corral Creek	1.8 miles 1.3 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure genetically altered population from competition and continued hybridization.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure population from competition and hybridization.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure population from competition and hybridization.
Habitat needs and activities: Maintain habitat and opportunistically pursue projects that improve cutthroat trout habitat and riparian condition. Work to maintain instream flow of 3.5 cfs in mainstem.					
Middle Fork Judith River and important tributaries	13 miles	Rainbow trout, Brook trout, Brown trout	Wild	General	Manage as a recreational fishery with consumptive harvest. Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
		Westslope cutthroat trout (N)	Wild	Conservation	Manage as recreational fishery with limited harvest. Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Doerr Creek	2 miles	Rainbow trout, Brook trout	Wild	Suppression/Removal	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Harrison Creek	8 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression/Removal	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
Weatherwax Creek	5.2 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
King Creek	2 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
Cleveland Creek	8 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Hell Creek	4 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Warm Spring Creek	3.5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Stiner Creek (including West Fork Stiner)	1.7 miles	Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Habitat needs and activities: Continue to address Middle Fork Judith impairment due to sedimentation stemming from USFS road crossings. Continue collaborative efforts to finalize road reroute and rehabilitate streambank habitat to address sediment loading. Explore opportunities to construct fish barrier to secure conservation population of westslope cutthroat trout and consider native fish restoration projects. Maintain habitat and instream flows of 22 cfs.					
Yogo Creek and important tributaries	13.5 miles	Rainbow trout, Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest. Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Westslope cutthroat trout (N)	Wild	Conservation	Manage as recreational fishery with limited harvest. Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Skunk Gulch	1.5 miles	Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.
Setter Creek	1.5 miles	Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Elk Creek	1.8 miles	Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Boulder Gulch	1 mile	Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
<p>Habitat needs and activities: The drainage has a long history of mining impacts and sedimentation related to road crossings, grazing management, and mining practices. In 2020, a wildfire burned much of the headwaters and may result in altered sediment regimes. Opportunistically pursue projects that address natural river function, riparian condition, and cutthroat trout habitat. Consider native fish restoration projects. Work with existing water users to conserve water and try to meet minimum instream flow of 3 cfs.</p>					
Lost Fork Judith River and important tributaries	8.2 miles	Rainbow trout, Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest. Consider suppression and removal efforts to minimize competition and hybridization with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	General	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Sandpoint Creek	1.5 miles	Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
Burris Creek	2.5 miles	Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
West Fork Lost Fork	6 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.
South Fork Lost Fork	3.5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
		Rainbow trout, Brook trout	Wild	Suppression	Consider suppression and removal efforts to minimize competition with cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain and secure populations from competition and continued hybridization. Explore native fish restoration projects.
<p>Habitat needs and activities: The drainage has some degraded riparian areas and sedimentation stemming from grazing management and historic wildfires. Opportunistically pursue projects that address natural river function, riparian condition, and cutthroat trout habitat. Consider native fish restoration projects. Work to conserve water and try to meet minimum instream flow of 14 cfs.</p>					
Ross Fork Creek	51.5 miles	Brown trout, Brook trout	Wild	General	Maintain a recreational fishery with consumptive harvest.
		Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels
<p>Habitat needs and activities: The drainage has habitat needs stemming from dewatering, grazing management and concentrated animal feeding operations which have resulted in sedimentation, elevated nutrients, and poor riparian condition. Additionally, Ross Fork provides critical thermal refugia for mainstem Judith River salmonids. To address these issues, projects that address water conservation, riparian condition, natural river function, nutrient impairment, and thermal regimes should be opportunistically pursued.</p>					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Big Spring Creek and important tributaries –	30.2 miles	Rainbow trout, Brown trout	Wild	General	Maintain a recreational fishery with consumptive harvest.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
		Yellow perch, Northern pike, Smallmouth bass	Wild	Suppression	Consider suppression and removal efforts when encountered to minimize negative impacts to recreational trout fishery.
Wolverine Creek	1.5 miles	Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain a recreational fishery.
Burnette Creek	2.5 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
Boyd Creek	9 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
Little Casino Creek	4 miles	Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain a recreational fishery.
		Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
Casino Creek	11.5 miles	Brown trout, Brook trout	Wild	General	Maintain a recreational fishery.
Castle Creek	7 miles	Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain a recreational fishery.
Hansen Creek	5 miles	Westslope cutthroat trout (N)	Hatchery	General	Consider expanding population in drainage.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
<p>Habitat needs and activities: Habitat needs in the drainage stem from channelization, fragmentation, riparian land management, dewatering, and subdivision development. Many of these impacts are more severe in the tributaries, especially habitat fragmentation. A 2004 DEQ TMDL study listed Big Spring Creek as impaired with sediment and nutrients and Casino Creek as impaired with nutrients. Opportunistically pursue projects that mitigate dewatering, improve riparian condition, restore connectivity, reduce fish entrainment, restore natural channel function, and address nonpoint source nutrient and sediment issues. Near-term plans include low-tech restoration activities in Castle Creek and removing historic riprap on Big Spring Creek where feasible. Work with water users to maintain instream flow of 110 cfs.</p>					
East Fork Big Spring Creek and important tributaries – Mouth to East Fork Dam	8.2 miles	Rainbow trout, Brown trout	Wild	General	Maintain a recreational fishery with consumptive harvest.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
East Fork Dam to headwaters	16 miles	Rainbow trout, Brook trout, Brown trout	Wild	General	Manage as a recreational fishery with consumptive harvest. Consider management actions to minimize potential for competition and hybridization with westslope cutthroat trout population.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extirpation risk.
Middle Fork Big Spring Creek	8 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
Marcott Creek	6 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.
<p>Habitat needs and activities: Habitat issues in the drainage include riparian land management, dewatering, timber harvest, and channelization/decreased floodplain access. Impairments include sedimentation, altered thermal regimes, and poor riparian condition. Opportunistically pursue projects that improve riparian condition and natural channel function, conserve water, and address nonpoint source sediment loads. Work with water users to maintain instream flows of 7.5 cfs.</p>					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Cottonwood Creek and important tributaries – mouth to US Hwy 87	10 miles	Rainbow trout, Brook trout, Brown trout	Wild	General	Maintain a recreational fishery with consumptive harvest.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
US Hwy 87 to West/East Fork confluence	22 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extirpation risk.
East Fork Cottonwood Creek	5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extirpation risk.
West Fork Cottonwood Creek	4.5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extirpation risk.
Unnamed tributary of West Fork Cottonwood Creek	2.9 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extirpation risk.
Beaver Creek	19 miles	Rainbow trout, Brook trout, Brown trout	Wild	General	Maintain a recreational fishery.
		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
<p>Habitat needs and activities: A 2004 DEQ TMDL study listed Cottonwood Creek as impaired with nutrients and dissolved oxygen. Projects that address water conservation, riparian condition, nutrients, and cutthroat trout habitat should be pursued opportunistically. Work with water users to maintain 4.5 cfs in Cottonwood Creek and 5 cfs in Beaver Creek.</p>					
Warm Spring Creek and important tributaries – mouth to Gigantic Warm Spring	28 miles	Brown trout	Wild	General	Maintain a recreational fishery with consumptive harvest
		Rainbow trout	Wild	General	Maintain recreational fishery with limited harvest. Monitor and conserve adfluvial population.
		Smallmouth bass	Wild	General	Maintain a recreational fishery with liberal harvest to minimize impacts to native species.
		Sauger (N)	Wild	Conservation	Maintain populations within historic levels and manage as a recreational fishery with limited harvest.
US Hwy 191 to headwaters	10 miles	Brook trout	Wild	General	Manage as recreational fishery with liberal harvest. Consider suppression and removal to minimize competition with cutthroat trout populations.
		Westslope cutthroat trout (N)	Wild	Conservation	Evaluate potential for population expansion. Consider native fish restoration projects.
North Fork Warm Spring Creek	3 miles	Brook trout	Wild	Suppression	Consider suppression and removal to minimize competition with cutthroat trout populations.
		Westslope cutthroat trout (N)	Wild	Conservation	Evaluate potential for population expansion. Consider native fish restoration projects.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Lincoln Gulch	2.3 miles	Brook trout	Wild	Suppression	Consider suppression and removal to minimize competition with cutthroat trout populations.
Alpine Gulch	3.1 miles	Westslope cutthroat trout (N)	Wild	Conservation	Evaluate potential for population expansion. Consider native fish restoration projects.
		Westslope cutthroat trout (N)	Wild	Conservation	Minimize threats to population from competition and hybridization. Evaluate potential for population expansion or replication.
Habitat needs and activities: The drainage has issues with riparian grazing management, timber harvest, dewatering, and mining activities. These activities contribute to poor riparian condition, restricted channel function, and sediment issues. Opportunistically pursue projects that improve riparian condition, channel function, conserve water, and benefit cutthroat trout habitat. Work with water users to maintain habitat and instream flow of 110 cfs in below Gigantic Warm Spring.					
Dog Creek	82 miles	Native minnows and suckers	Wild	Conservation	Maintain populations within historic levels.
Habitat needs and activities: The drainage has generally poor riparian condition. Opportunistically pursue projects that improve riparian condition and channel function.					
Armells Creek and important tributaries – mouth to East Fork confluence	72 miles	Native minnows and suckers	Wild	Conservation	Maintain populations within historic levels.
East Fork to headwaters	8 miles	Brook trout	Wild	General	Manage as a recreational fishery.
		Native minnows and suckers	Wild	Conservation	Maintain populations within historic levels.
Fargo Coulee	16 miles	Native minnows and suckers	Wild	Conservation	Maintain populations within historic levels.
Deer Creek	13 miles	Northern redbelly dace (N)	Wild	Conservation	Maintain populations within historic levels.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Habitat needs and activities: DEQ completed a TMDL study in 2013 that identified metals impairment in Armells Creek and nutrient, metals, and altered streamside vegetation as impairments in Fargo Coulee. Projects that address the listed impairments and their causes should be opportunistically pursued.					
Ackley Lake	250 acres	Rainbow trout	Hatchery	Put-Grow-and-Take	Manage for recreational fishery with consumptive harvest and opportunity for quality fish with continued stocking based on the biology of the fishery. Manage for goals of >10 rainbow trout per net.
		Brown trout	Hatchery	Put-Grow-and-Take	Manage for trophy opportunity.
		Tiger muskie	Hatchery	Put-Grow-and-Take	Manage population via stocking and limited harvest to suppress white sucker population and provide a unique trophy opportunity.
Habitat needs and activities: Work with water users to maintain minimum pool elevation.					
Crystal Lake	40 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Put-and-Take	Maintain seasonal recreational fishery for consumptive harvest by continued stocking of between 500 to 2,000 catchable fish when lake storage levels are suitable.
Habitat needs and activities: Consider efforts to minimize downstream escapement.					
East Fork Reservoir	90 Acres	Yellow perch	Wild	General/Suppression	Maintain recreational fishery with liberal harvest. Consider management actions to suppress population to reduce stunting.
		Northern pike	Wild	General	Manage recreational fishery for consumptive harvest.
		Rainbow trout	Hatchery	Put-and-Take	Provide additional recreational fishery when hatchery source is available.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Largemouth bass	Hatchery	Put-Grow-and-Take	Species has been stocked in the past, but not currently present. May be considered to suppress yellow perch and provide additional recreational opportunity.
Habitat needs and activities: Work with City of Lewistown and Natural Resources Conservation Service (NRCS) to explore opportunities to use stored water to meet instream flows of Big Spring Creek during time of drought.					
Hansen Reservoir	13 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Put-Grow-and-Take	Maintain recreational fishery for consumptive harvest by continued stocking based on the biology of the fishery. Evaluate potential of native fish restoration project.
Habitat needs and activities: Work to address sedimentation of reservoir and shoreline erosion.					
Big Casino Creek Reservoir	17 acres	Yellow perch	Wild	General	Manage for recreational fishery with consumptive harvest.
		Largemouth bass	Hatchery/Wild	Put-Grow-and-Take	Manage for recreational fishery with consumptive harvest and supplement with continued stocking of fingerlings as necessary.
		Black crappie	Wild	General	Manage for recreational fishery with consumptive harvest. Consider supplementing population with additional wild fish transfers.
		Rainbow trout	Hatchery	Put-and-Take	Provide additional recreational fishery when hatchery source is available.
		Tiger muskie	Hatchery	Put-and-Take/Quality	Manage population via stocking and limited harvest to suppress white sucker population and provide a unique trophy opportunity.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Habitat needs and activities: Work to address turbidity, sedimentation, and shoreline erosion. Continue to pursue collaborative shoreline stabilization project. Continue habitat enhancement activities including natural and artificial habitat structures.					
Elks Country Club Pond	1 acre	Rainbow trout, Other salmonids	Hatchery	Put-and-Take/Family Fishing Water	Maintain for recreational fishery with consumptive harvest by continued stocking. Continue to manage as family fishing water.
Habitat needs and activities: Consider aeration to minimize risk of winterkill.					
Lower Frog Pond	1.2 acres	Rainbow trout, Other salmonids	Hatchery	Put-and-Take/Family Fishing Water	Manage for urban fishery with consumptive harvest by continued stocking.
Habitat needs and activities: Monitor and consider projects that address sedimentation.					
Upper Frog Pond	1.2 acres	Rainbow trout, Other salmonids	Hatchery	Put-and-Take/Family Fishing Water	Manage for urban fishery with consumptive harvest by continued stocking.
Habitat needs and activities: Monitor and consider projects that address sedimentation.					
Lower Carter Pond	23 acres	Rainbow trout, Other salmonids	Hatchery	Put-and-Take	Manage for quality fishery with limited harvest by continued stocking.
Habitat needs and activities: Continue aeration to minimize risk of winterkill.					
Upper Carter Pond	16 acres	Rainbow trout, Other salmonids	Hatchery	Put-and-Take	Manage for recreational fishery with consumptive harvest by continued stocking.
Habitat needs and activities: Continue aeration to minimize risk of winterkill.					
Rhoda Lake	3 acres	Westslope cutthroat trout	Hatchery	Put-Grow-and-Take	Maintain recreational fishery with consumptive harvest by continued stocking.
Private & public ponds with public access	-	Rainbow trout, Brook trout, Brown trout, Westslope cutthroat trout, Largemouth bass, Bluegill, Crappie,	Hatchery/Wild	General	Maintain existing pond fisheries available to the public for harvest. Continue to stock as needed based on biology. Consider additional wild fish transfers as needed.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Yellow perch, Channel catfish, Northern pike, & others			
Habitat needs and activities: Enhance structure and consider aeration in ponds when possible and needed. Seek additional opportunities.					
Cow Creek-headwaters to Cow Creek Reservoir	8 miles	Brook trout	Wild	General	Protect habitat and provide fish passage when applicable. Monitor stream water temperatures during the summer and fall.
Cow Creek Reservoir	82 acres	Brook trout, Yellow perch, Black crappie	Wild/Hatchery	General	Continue to monitor populations and stock when necessary.
		Tiger muskie	Hatchery	Quality	Manage tiger muskie for trophy fishery (fish > 40-inches).
		Channel catfish	Wild/Hatchery	General	Monitor population and supplement with stocking as needed.
		Walleye	Wild/Hatchery	General	Stock 3,000 walleye fingerling on alternate years.
Habitat needs and activities: Look for opportunities to increase nearshore spawning and rearing habitat for all species. Maintain instream flow of 4.5 cfs in Cow Creek above reservoir to protect fish habitat. Monitor stream water temperatures during the summer and fall.					
Cow Creek-Cow Creek Reservoir tailwaters to confluence with Missouri River	46 miles	Native nongame fish (N)	Wild	Conservation	Protect habitat and provide fish passage when applicable.
Habitat needs and activities: Identify habitat issues and work closely with local conservation districts, county road crews, and landowners to implement safe water crossings which emphasis fish passage and water connectivity. Monitor stream water temperatures during the summer and fall.					

